REMARKS

Claims 1-11 are currently pending in the application. Claims 1, 3, 8, and 10 are in independent form. In light of the Examiner's comments, claims 1 and 10 have been amended to more precisely claim the unique aspects of the present invention.

Claims 1-11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,995,866 to Lemelson. Reconsideration of the rejections is respectfully requested.

In Richardson v. Suzuki Motor Co., Ltd., 868 F.2d 1226, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989) it was stated: "Every element of the claimed invention must be literally present, arranged as in the claim."

The Office Action has held that the Lemelson patent discloses a fuzzy inference system and method of modulating radiation treatment, including an imaging device for creating and storing image data of relevant tissue and organ parts, input means for inputting imaging data, inference means operatively connected to the input means for analyzing the imaging data and determining a radiation treatment target from a non-treatment target and determining strength of radiation treatment, output means for modulating radiation treatment pursuant to the analysis from the inference means, and modulating radiation treatment pursuant to data obtained from the fuzzy inference system.

When read more specifically, the Lemelson patent defines its purpose as "…to provide a system and method for analyzing select matter in a field or sample of such matter by a combination of computerized image analysis of the matter in the field and computerized fluorescence analysis of select

amounts of matter in the field scanned **wherein separate beams of radiation are employed to effect each of the scannings**." (Lemelson, column 4, lines 54-60, emphasis added). Lemelson's requirement of (at least) two separate radiation beams is critical in light of the stated purpose and objective of the Lemelson patent. Lemelson's stated objective is "...for **detecting and quantizing disease**, such as cancer, employing radiation, such a laser radiation.... The radiation beam is so generated and varied during its scanning movement across select tissue and/or as it statically intersects select tissue such as a tumor or a malignancy, that it causes variable fluorescence or spectral radiation to be emitted by the select tissue, cancer or precancerous cells. Photoelectric or optical detection of such spectral radiation results in the generation of variable electrical or optical signals which are computer processed and analyzed in a manner to (a) detect the presence of the disease or cancer and/or precancerous cells, (b) quantize the cancer and/or precancerous cells in terms of their number, distribution and/or the shape and location of the malignancy, (c) determine the type of cancer, (d) determine the stage of the malignancy, and (e) determine the stages of different portions and/or cells of the malignancy or disease." (Column 1, Lines 18-38, emphasis added.)

Conversely, the present invention presents a fuzzy inference system directed towards "...modulating radiation treatment" (Claim 1, Paragraph [0023]), a purpose and objective far different than the "detecting and quantizing disease" objective of the Lemelson patent. One of the critical elements of the present invention is the implementation and application of fuzzy logic within the system and method of the present invention. As defined

in the specification, by using fuzzy logic "…it is possible to make decisions based on incomplete knowledge and in the absence of exactly measured input values. Fuzzy systems are capable of operating in a stable manner even in the case of contradictory individual rules." (Paragraph [0038]). This ability to make decisions based on incomplete or contradictory input values or rules is not present, and indeed runs counter to the requirement in the Lemelson patent of two precisely aimed beams of radiation.

The criticality and distinctiveness of the present invention's fuzzy logic system is further defined in the specification when describing the process of the Fuzzy Inference System, and is also further underscored in the presently amended claims. Paragraph [0114] recites that "For each variable input to the fuzzy inference system, a number of fuzzy sets are defined with appropriate membership functions…. During the process of fuzzification (corresponding to the module of Fuzzifier), the **single input value** is compared to the membership functions defined for that input variable." (Emphasis added). Again, the present invention's ability to operate based on a single input using its Fuzzy Inference System (the "singular imaging data" of the presently amended claims) distinguishes it from the Lemelson patent which requires a minimum of two inputs in order to operate. Furthermore, as described above, this distinction underlies the different objectives to which the Lemelson patent and the present invention are directed. While Lemelson is directed towards the detecting and quantizing of disease, the present invention is directed towards modulating radiation treatment, a purpose far different and distinct than that of Lemelson.

In light of the above distinctions and novelty present in the present invention beyond that which is described in the prior art, in addition to the present amendment, reconsideration of the rejection is respectfully requested.

The remaining dependent claims not specifically discussed herein are ultimately dependant on the independent claims. References as applied against these dependent claims do not make up for the deficiencies of those references as discussed above, and the prior art references do not disclose the characterizing features of the independent claims as discusses above. Hence, it is respectfully submitted that, in light of the present amendment, all of the pending claims are patentable over the prior art.

In conclusion, it is respectfully submitted that, in light of the present amendment, the presently pending claims are in condition for allowance, which allowance is respectfully requested. Applicant respectfully requests to be contacted by telephone at (248)539-5050 if any remaining issues exist.

The Commissioner is authorized to charge any fee or credit any overpayment in connection with this communication to our Deposit Account No. 11-1449.

Respectfully submitted,

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I hereby certify that this correspondence is being electronically filed with the United States Patent & Trademark Office on the above date.

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